**TASK 1**

**Names:**

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1. Number := (+|-)? [0-9]+(\.([0-9])+)?

2) String := “.\*”

3) Reserved\_Keywords := int | float | string | read | write | repeat | until | if | elseif | else | then | return | endl

4) Comment Statement := /\\*(.\*)\\*/

5) Identifiers := ([a-z] | [A-Z])+ ([0-9] | [a-z] | [A-Z])\*

6) Function\_Call := Identifier \( ( (Identifier ,)\* Identifier )\* \)

7) Term := Number | Identifier | Function\_Call

8) Arithmatic\_Operator := + | - | \* | /

9) Equation := ( Term | \( ) ((Term Arithmatic\_Operator )\* Term)+ \)

10) Expression := String | Term | Equation

11) Assignment\_Statement := Identifier := Expression

12) Datatype := int | float | string

13) Declaration\_Statement :=

Datatype (( (Identifier | Assignment\_Statement) , )\* (Identifier | Assignment\_Statement) ; )+

14) Write\_Statement := write (Expression | Endl) ;

15) Read\_Statement := read Identifier ;

16) Return\_Statement := return Expression ;

17) Condition\_Operator := < | > | = | <>

18) Condition := Identifier Condition\_Operator Term

19) Boolean\_Operator := && | ||

20) Condition\_Statement := Condition (Boolean\_Operator Condition )\*

21) Statements := Declaration\_Statement | Write\_Statement | Read\_Statement | If\_Statement | Else\_If\_Statement | Else\_Statement | Repeat\_Statement

22) If\_Statement := if Condition\_Statement then (Statements)+ ( Else\_If\_Statement | Else\_Statement | end )

23) Else\_If\_Statement := elseif Condition\_Statement then (Statements)+ ( Else\_If\_Statement | Else\_Statement | end )

24) Else\_Statement := else (Statements)+ end

25) Repeat\_Statement := repeat (Statements)+ until Condition\_Statement

26) FunctionName := Identifiers

27) Parameter := Datatype Identifiers

28) Function\_Declaration := Datatype FunctionName \( ((Parameter ,)\* Parameter)\* \)

29) Function\_Body := { (Statements)+ Return\_Statement }

30) Function\_Statement := Function\_Declaration Function\_Body

31) Main\_Function := Datatype main \(\) Function\_Body

32) Program := (Function\_Statement)\* Main\_Function